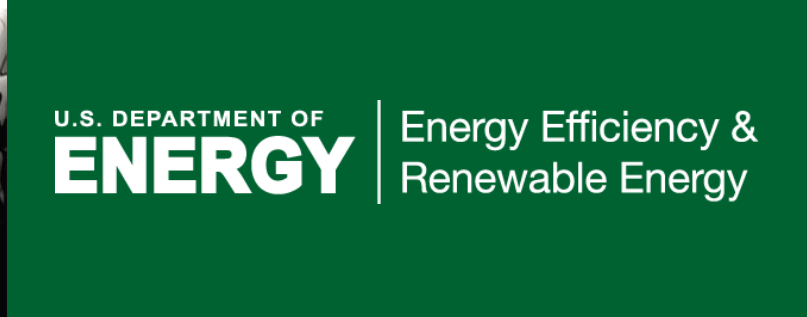


Welcome

This webinar is being recorded and will be published on the EERE eXCHANGE website

- If you do not wish to have your voice recorded please do not speak during the call
- If you do not wish to have your image recorded, please turn off your camera or participate by phone
- If you speak during the call or use a video connection, you are presumed to consent to recording and use of your voice or image

Please mute your phones and we'll begin momentarily



Bipartisan Infrastructure Law Enhanced Geothermal Systems (EGS) Pilot Demonstrations

BIL_EGSPilotDemos@ee.doe.gov

FOA Webinar
DE-FOA-0002826
02/9/2023

Notice

- NO NEW INFORMATION OTHER THAN THAT PROVIDED IN THE FOA WILL BE DISCUSSED IN THE WEBINAR.
- There are no particular advantages or disadvantages to the application evaluation process with respect to participating on the webinar today.
- Your participation is completely voluntary.

Notice

- All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement DE-FOA-0002826 (“FOA”) and adhere to the stated submission requirements.
- This presentation summarizes the contents of FOA. If there are any inconsistencies between the FOA and this presentation or statements from DOE personnel, the FOA is the controlling document and applicants should rely on the FOA language and seek clarification by submitting a question to BIL_EGSPilotDemos@ee.doe.gov.

Anticipated Schedule:

FOA Issue Date:	02/08/2023
Submission Deadline for Letter of Intent	03/08/2023
Submission Deadline for Full Applications:	06/16/2023
Expected Date for EERE Selection Notifications:	10/31/2023
Expected Timeframe for Award Negotiations:	June 2024

Agenda

- 1) FOA Description
- 2) Topic Areas/Technical Areas of Interest
- 3) Award Information
- 4) Statement of Substantial Involvement
- 5) Cost Sharing
- 6) FOA Timeline
- 7) Letter of Intent
- 8) Full Applications
- 9) Merit Review and Selection Process
- 10) Registration Requirements

FOA Description

- Awards made under this Funding Opportunity Announcement (FOA) will be funded, in whole or in part, with funds appropriated by the Infrastructure Investment and Jobs Act, also more commonly known as the Bipartisan Infrastructure Law (BIL).
- The BIL is a once-in-a-generation investment in infrastructure, which will grow a more sustainable, resilient, and equitable economy through enhancing U.S. competitiveness, driving the creation of good-paying union jobs, and ensuring stronger access to economic, environmental, and other benefits for disadvantaged communities. The BIL appropriates more than \$62 billion to the Department of Energy (DOE) to invest in American manufacturing and workers; expand access to energy efficiency; deliver reliable, clean and affordable power to more Americans; and deploy the technologies of tomorrow through clean energy demonstrations.
- As part of and in addition to upgrading and modernizing infrastructure, DOE's BIL investments will address the climate crisis and support efforts to build a clean and equitable energy economy that achieves zero carbon electricity by 2035, and puts the United States on a path to achieve net-zero emissions economy-wide by no later than 2050 to benefit all Americans.

FOA Description

- The Department of Energy's (DOE's) Geothermal Technologies Office's (GTO) 2022 Enhanced Geothermal Shot™ analysis, building on the 2019 GeoVision report, concludes that with aggressive technology improvements, in areas relevant to enhanced geothermal systems (EGS), geothermal power generation could provide 90 gigawatts-electric (GWe) firm, flexible power to the U.S. grid by 2050.
- Enhanced Geothermal Systems are engineered geothermal reservoirs, created where there is hot rock (175-300+°C), but little to no natural permeability and/or fluid saturation. During EGS development, subsurface permeability is enhanced via safe, well-engineered reservoir stimulation processes that re-open pre-existing fractures, create new ones, or a combination of both. These open conduits increase permeability and allow fluid to circulate throughout the hot rock. The fluid transports the otherwise stranded heat to the surface where clean, renewable electricity can be generated with current power generation technologies.
- Relative to other geothermal resources, EGS have the potential to provide the most growth in the electric sector, and in the GeoVision scenarios, support noteworthy growth within the non-electric sector for district heating and other direct-use applications. This potential expands if superhot EGS resources (>375°C) are accounted for. Without significant and sustained investment in EGS technology development and demonstrations to refine our ability to access and develop these resources, however, the 90 GWe target will not be achieved.

Topic Areas/Technical Areas of Interest

- **Topic Area 1: EGS Proximal Demonstrations**
EGS demonstrations utilizing existing infrastructure proximal to existing geothermal / hydrothermal development with immediate potential for electrical power production.
- **Topic Area 2: EGS Green Field Demonstrations**
Sites with no existing geothermal development and potential for shallow sedimentary, igneous and/or mixed metamorphic rock EGS with near-term electrical power production potential.
- **Topic Area 3: Super-hot / Supercritical EGS Demonstrations**
Super-hot/ supercritical EGS demonstrations located at well-characterized sites with existing well(s) in place and with near-term electrical power production potential.
- **Topic Area 4: Eastern-US EGS Demonstrations**
EGS stimulation demonstration located at a well-characterized Eastern U.S. site, with existing well(s) in place and near-term electrical power and heat production potential.

Non-Responsive Applications

The following types of applications will be deemed nonresponsive and will not be reviewed or considered (See Section III.D. of the FOA):

- Applications that fall outside the technical parameters specified in Section I.A. and I.B. of the FOA.
- Applications that propose to conduct demonstration activities outside of the United States of America.
- Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the laws of thermodynamics).
- Applications that do not intend to establish feasibility for power production.
- Applications which propose a cost share percentage less than 20%.

Teaming Partner List

- To facilitate the formation of new project teams for this FOA, a Teaming Partner List is available at [EERE eXCHANGE](#)
- Any organization that would like to be included on this list should submit the following information to BIL_EGSPilotDemos@ee.doe.gov
 - Organization Name, Contact Name, Contact Address, Contact Email, Contact Phone, Organization Type, Area of Technical Expertise, and Brief Description of Capabilities
- By submitting this information, you consent to the publication of the above-referenced information
- By facilitating this Teaming Partner List, EERE does not endorse or otherwise evaluate the qualifications of the entities that self-identify themselves for placement on the Teaming Partner List

Award Information

Total Amount to be Awarded	Approximately \$74,000,000*
Average Award Amount	EERE anticipates making awards that range from \$5,000,000 to \$25,000,000.
Types of Funding Agreements	<ul style="list-style-type: none">• Cooperative Agreements
Period of Performance	36 to 60 months
Cost Share Requirement	20% of Total Project Costs

*Subject to the availability of appropriated funds

Statement of Substantial Involvement

EERE has substantial involvement in work performed under awards made following this FOA. EERE does not limit its involvement to the administrative requirements of the award. Instead, EERE has substantial involvement in the direction and redirection of the technical aspects of the project as a whole. Substantial involvement includes, but is not limited to, the following:

- EERE shares responsibility with the Recipient for the management, control, direction, and performance of the Project.
- EERE may intervene in the conduct or performance of work under this award for programmatic reasons. Intervention includes the interruption or modification of the conduct or performance of project activities.
- EERE may redirect or discontinue funding the Project based on the outcome of EERE's evaluation of the Project at that the Go/No Go decision point.
- EERE participates in major project decision-making processes.

Cost Sharing Requirements

Applicants are bound by the cost share proposed in their Full Applications if selected for award negotiations.

Please note that cost share has been reduced to 20% for this FOA to attract the broadest group of potential applicants.

Any costs incurred prior to the award selection date (such as well drilling or workovers, collection of rock/core cuttings, well-field development, or power plant construction) are not eligible for consideration as recipient cost share. However, recipient cost share for wells drilled only after December 31, 2008, and prior to the project period start date may be allowable if those costs fall into depreciation covered under an indirect rate agreement or allocation method approved by a governmental agency. Please note that target wells that have been drilled prior to December 31, 2008, are still eligible for stimulation, but will not be allowable for consideration as cost share.

Cost Share Contributions

- Contributions must be:
 - Specified in the project budget
 - Verifiable from the Prime Recipient's records
 - Necessary and reasonable for proper and efficient accomplishment of the project
- If you are selected for award negotiations, every cost share contribution must be reviewed and approved in advance by the Contracting Officer and incorporated into the project budget before the expenditures are incurred
- Please note, vendors/contractors may NOT provide cost share. Any partial donation of goods or services is considered a discount and is not allowable.

Allowable Cost Share

- Cost Share must be allowable and must be verifiable upon submission of the Full Application
- Refer to the following applicable Federal cost principles:

Entity	Cost Principles
For-profit entities	FAR Part 31 http://farsite.hill.af.mil/reghtml/regs/far2afmcfars/fardfars/far/31.htm
All other non-federal entities	2 CFR Part 200 Subpart E - Cost Principles https://www.ecfr.gov/cgi-bin/text-idx?node=2:1.1.2.2.1.5&rgn=div6

Allowable Cost Share

- Cash Contributions
 - May be provided by the Prime Recipient, Subrecipients, or a Third Party (may not be provided by vendors/contractors)
- In-Kind Contributions
 - Can include, but are not limited to, the donation of volunteer time or the donation of space or use of equipment.

For more information, see the Cost Share Appendix A in the FOA

Unallowable Cost Share

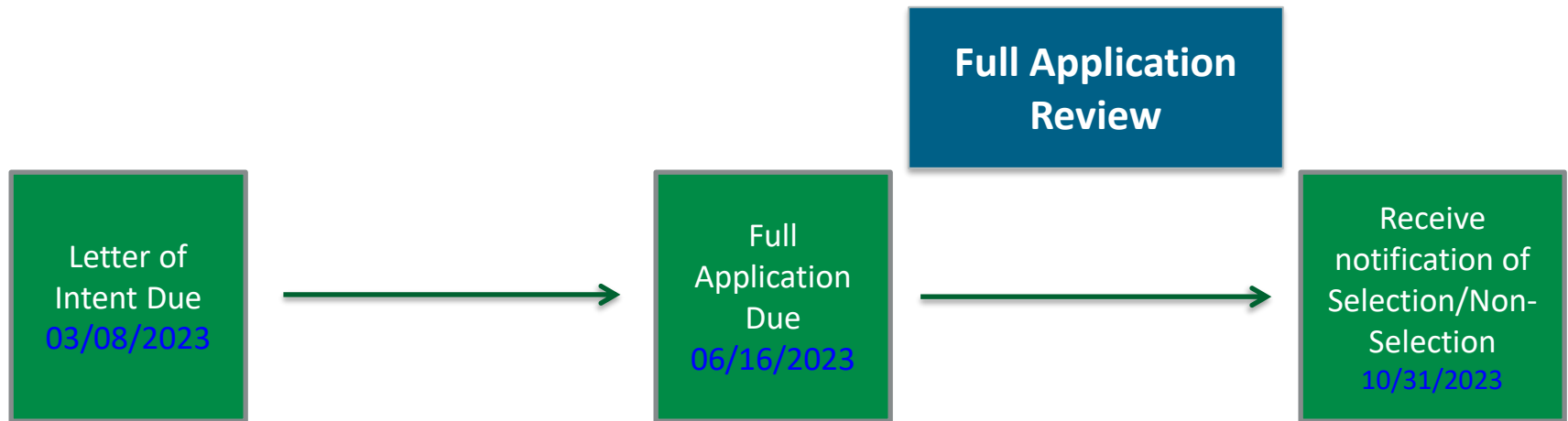
The Prime Recipient may **NOT** use the following sources to meet its cost share obligations including, but not limited to:

- Revenues or royalties from the prospective operation of an activity beyond the project period
- Proceeds from the prospective sale of an asset of an activity
- Federal funding or property
- Expenditures reimbursed under a separate Federal Technology Office
- The same cash or in-kind contributions for more than one project or program
- Vendor/contractor contributions

Cost Share Payment

- Recipients must provide documentation of the cost share contribution, incrementally over the life of the award
- The cumulative cost share percentage provided on each invoice must reflect, at a minimum, the cost sharing percentage negotiated
- In limited circumstances, and where it is in the government's interest, the EERE Contracting Officer may approve a request by the Prime Recipient to meet its cost share requirements on a less frequent basis, such as monthly or quarterly. See Section III.B.6 of the FOA.

FOA Timeline



EERE anticipates making awards in **June 2024**

Required Letters of Intent

- Letters of Intent (“LOIs”) are REQUIRED in order to be eligible to submit a Full Application
- To be considered:
 - The LOI must comply with the content and form requirements of Section IV.C of the FOA, and
 - The applicant must enter all required information and click the “Create Submission” button in EERE eXCHANGE by the deadline stated in the FOA.
- The LOIs should not contain any proprietary or sensitive business information
- EERE will provide notification of eligibility for Letters of Intent

Full Applications

The Full Application includes:

- **Technical Volume**
- **Resumes**
- **Letters of Commitment**
- **Statement of Project Objectives**
- **SF-424**
- **Budget Justification Workbook**
- **Summary/Abstract for Public Release**
- **Summary Slide**
- **Subrecipient Budget Justification**
- **DOE Work Proposal for FFRDC**
 - **If applicable (See DOE O 412.1A, Attachment 3)**
- **Authorization from cognizant Contracting Officer for FFRDC**
- **SF-LLL Disclosure of Lobbying Activities**
- **Foreign Entity Waiver Requests and Foreign Work Waiver Requests**
- **Buy America Requirements for Infrastructure Projects Waiver Requests**
- **Community Benefits Plan**
- **Current and Pending Support**
- **Geothermal Drilling Permits and Legal Rights Documentation**

Full Applications: Technical Volume Content

Technical Volume: the key technical component of the Full Application

Content of Technical Volume	Suggested % of Technical Volume
Cover Page	
Project Overview and Impacts	5%
Site and Technology Overview	35%
Workplan	40%
Technical Qualifications and Resources	20%
Appendix 1 to Technical Volume: Communications Plan	

Full Application Eligibility Requirements

- Applicants must submit a Full Application by 06/16/2023
- Full Applications are eligible for review if:
 - The Applicant is an eligible entity Section III.A of FOA;
 - The Applicant submitted an eligible Letter of Intent;
 - The Cost Share requirement is satisfied Section III.B of FOA;
 - The Full Application is compliant Section III.C of FOA; and
 - The proposed project is responsive to the FOA Section III.D of FOA
 - An entity may submit more than one Full Application to this FOA, provided that each application describes a unique, scientifically distinct, or geographically distinct project.
 - The Full Application meets any other eligibility requirements listed in Section III of the FOA.

Who is Eligible to Apply?

Eligible applicants for this FOA include:

1. U.S. citizens and lawful U.S. permanent residents
2. For-profit entities
3. Educational institutions
4. Nonprofits
5. State, local, and tribal government entities
6. DOE/NNSA FFRDCs

For more detail about eligible applicants, please see Section III.A of the FOA

Nonprofit organizations described in Section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995, are not eligible to apply for funding.

Prime Recipients must be incorporated (or otherwise formed) under the laws of a State or territory of the United States and have a physical location for business operations in the United States. See Section III.A.ii for requirements applicable to foreign entities applying under this FOA.

Multiple Applications

- An entity may submit more than one Full Application to this FOA, provided that each application describes a unique, scientifically distinct, or geographically distinct project.

Merit Review and Selection Process (Full Applications)

- The Merit Review process consists of multiple phases that each include an eligibility review and a thorough technical review
- Rigorous technical reviews are conducted by reviewers that are experts in the subject matter of the FOA
- Ultimately, the Selection Official considers the recommendations of the reviewers, along with other considerations such as program policy factors, to make the selection decisions

Technical Merit Review Criteria

Applications will be evaluated against the technical review criteria shown below. All sub-criteria are of equal weight.

Criterion 1: Technical Merit, Innovation, and Impact (45%)

This criterion involves consideration of the following factors:

Technical Merit and Innovation

- Degree to which existing site characterization data supports the planned EGS demonstration
 - Degree to which existing wells are available to substantiate site characterization
 - Degree to which existing wells can be used for stimulation activities and the level of workover / recompletion needed for wells to be suitable for stimulation
 - For projects requiring new wells, the degree to which innovative drilling approaches are incorporated to reduce costs and increase average daily Rate-Of-Penetration
 - Degree to which the stimulation approach is demonstrated to yield production potential required for the respective Topic Areas (desired but not required in Topic Area 3).
 - Degree to which the stimulation plan incorporates methods and technologies that will support the proposed stimulation approach
 - The current state of permitting and the degree to which the proposed location will be fully permitted within Phase 1 of the project.
- Degree to which the project will result in electrical power production (required for Topic Area 1; desired but not required for Topic Areas 2,3, and 4)
- Extent to which the proposed stimulation process incorporates multi-zone stimulation while presenting a technology that is at TRL 6 (multi-zone stimulation is not required in Topic Area 3)
 - Degree to which the proposed drilling, stimulation, and other operational plans are clearly described, including adequate discussion of technological and operational risks specific to all proposed field activities, as well as mitigatory actions and/or contingencies
 - Extent to which the application specifically and convincingly demonstrates how the applicant will move the state-of-the-art to the proposed advancement; and
 - Sufficiency of technical detail in the application to assess whether the proposed work is scientifically meritorious, including relevant data, calculations and discussion of prior work with analyses that support the viability of the proposed work.

Impact of Technology Advancement

- The extent the project supports the Topic Area objectives and target specifications and metrics;
- The potential impact of the project on advancing the state-of-the-art; and

Project Management

- Adequacy, reasonableness, and soundness of the project schedule, as well as annual Go/No-Go decisions prior to a budget period continuation application, interim milestones, and metrics to track process.
- Adequacy of the identification of risks, including possible labor and community opposition or disputes, and “timely” and appropriate strategies for mitigation and resolution.
- Soundness of a plan to expeditiously address environmental, siting, and other regulatory requirements for the project

Technical Merit Review Criteria

Criterion 2: Project Approach (20%)

This criterion involves consideration of the following factors:

Research Approach, Workplan and SOPO

- Description of benefits from technical, organizational, and market learning (only Topic Areas 2, 3, and 4) opportunities of demonstration efforts in complex geothermal settings.
- Degree to which the approach and plans have been clearly described and thoughtfully considered; and
- Degree to which the task descriptions are clear, detailed, timely, and reasonable, resulting in a high likelihood that the proposed Workplan and SOPO will succeed in meeting the project goals.

Workforce

- Extent to which there is clarity and appropriate allocation of resources to documenting the workforce KSAs of demonstration projects.

Identification of Technical Risks

- Discussion and demonstrated understanding of the key technical risk areas involved in the proposed work and the quality of the mitigation strategies to address them.

Baseline, Metrics, and Deliverables

- The level of clarity in the definition of the baseline, metrics, and milestones; and
- Relative to a clearly defined experimental baseline, the strength of the quantifiable metrics, milestones, and a mid-point deliverables defined in the application, such that meaningful interim progress will be made.

Market Transformation Plan

- Identification of target market, competitors, and distribution channels for proposed technology along with known or perceived barriers to market penetration, including mitigation plan; and
- Comprehensiveness of market transformation plan including but not limited to product development and/or service plan, commercialization timeline, financing, product marketing, legal/regulatory considerations including intellectual property, and infrastructure requirements.

Technical Merit Review Criteria

Criterion 3: Team and Resources (20%)

This criterion involves consideration of the following factors:

- The capability of the Principal Investigator(s) and the proposed team to address all aspects of the proposed work with a high probability of success.
- The qualifications and relevant expertise of the individuals on the team with respect to managing large-scale demonstration projects;
- The sufficiency of the facilities to support the work;
- The clear identification of key personnel including project management experts to run demonstrations and information officers to communicate directly with stakeholders.
- The degree to which the proposed consortia/team demonstrates the ability to facilitate and expedite further development and commercial deployment of the proposed technologies;
- The level of participation by project participants as evidenced by letter(s) of commitment and how well they are integrated into the Workplan, Workplan; and
- The reasonableness of the budget and spend plan for the proposed project and objectives.

Technical Merit Review Criteria

Criterion 4: Community Benefits Plan (15%)

This criterion involves the consideration of the following factors:

Diversity, Equity, Inclusion and Accessibility (DEIA)

- Clear articulation of the project's goals related to diversity, equity, inclusion, and accessibility;
- Quality of the project's DEIA goals, as measured by the goals' depth, breadth, likelihood of success, inclusion of appropriate and relevant SMART milestones, and overall project integration;
- Degree of applicant's commitment and ability to track progress towards meeting each of the diversity, equity, inclusion, and accessibility goals; and
- Extent of engagement of organizations that represent underserved communities as a core element of their mission, including Minority Serving Institutions (MSIs) , Minority Business Entities, and non-profit or community-based organizations.

Energy Equity

- Clear workplan tasks, staffing, research, and timeline for engaging energy equity stakeholders and/or evaluating the possible near- and long-term implications of the project for the benefit of the American public, including, but not limited to the public health and public prosperity benefits;
- Approach, methodology, and expertise articulated in the plan for addressing energy equity and justice issues associated with the technology innovation; and
- Likelihood that the plan will result in improved understanding of distributional public benefits and costs related to the innovation if successful.

Workforce Implications

- Clear and comprehensive plan to mitigate workforce-related risks
- Approach and qualified personnel to document the knowledge, skills, and abilities of the workforce required for successful commercial deployment of innovations resulting from this research; and
- Applicant's approach to engage registered apprentices for construction and other apprenticeable activities.

Pre-Selection Interviews

- EERE may invite one or more applicants to participate in Pre-Selection Interviews
- All interviews will be conducted in the same format
- EERE will not reimburse applicants for travel and other expenses relating to the Pre-Selection Interviews, nor will these costs be eligible for reimbursement as pre-award costs
- Participation in Pre-Selection Interviews with EERE does not signify that applicants have been selected for award negotiations

Selection Factors

The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available in arriving at selections for this FOA

Program Policy Factors

i. Program Policy Factors

- The degree to which the proposed project exhibits technological diversity when compared to the existing DOE project portfolio and other projects selected from the subject FOA;
- The degree to which the proposed project, including proposed cost share, optimizes the use of available EERE funding to achieve programmatic objectives;
- The level of industry involvement and demonstrated ability to accelerate commercialization and overcome key market barriers;
- The degree to which the proposed project is likely to lead to increased high-quality employment and manufacturing in the United States;
- The degree to which the proposed project will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty;
- The degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications);
- The degree to which the proposed project incorporates diversity, equity, inclusion, and accessibility elements, including, but not limited to, applicant or team members from Minority Serving Institutions (e.g., Historically Black Colleges and Universities (HBCUs)/Other Minority Institutions), Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, Veteran Owned Businesses, Tribal Nations, or members within underserved communities;
- The degree to which the proposed project will lead to quality job creation in the near and long-term.
- The degree to which the proposed project maximizes benefits to disadvantaged communities;
- The degree to which the proposed project minimizes environmental impacts to disadvantaged communities;
- The degree to which the project methods or strategy will maximize deployment or replication;
- The level of net power production feasible from proposed projects;
- The degree to which environmental or regulatory permitting uncertainties will impact project timelines and success;
- The degree to which the project promotes increased coordination with nongovernmental entities for demonstration of technologies and research applications to facilitate technology transfer;
- The degree to which the proposed project collectively represents diverse types and sizes of applicant organizations;

Registration Requirements

- To apply to this FOA, Applicants must submit application materials through EERE eXCHANGE:
 - Beginning in July 2022*, eXCHANGE will be updated to integrate with [Login.gov](https://login.gov). As of Sept. 29, 2022*, applicants must have a Login.gov account to access [EERE eXCHANGE](#). Please ensure that the email address associated with Login.gov matches the email address associated with your eXCHANGE account. For more information, refer to the eXCHANGE Multi-Factor Authentication (MFA) Quick Guide in the [Manuals section](#) in eXCHANGE.
- Obtain a “control number” at least 24 hours before the first submission deadline.
- Although not required to submit an Application, the following registrations must be complete to received an award under this FOA:

Registration Requirement	Website
SAM	https://www.sam.gov
FedConnect	https://www.fedconnect.net
Grants.gov	http://www.grants.gov

*Date subject to change

Means of Submission

- Letters of Intent and Full Applications must be submitted through EERE eXCHANGE at <https://eere-eXCHANGE.energy.gov>
 - EERE will not review or consider applications submitted through other means
- The Users' Guide for Applying to the Department of Energy EERE Funding Opportunity Announcements can be found at <https://eere-eXCHANGE.energy.gov/Manuals.aspx>

Key Submission Points

- Check entries in EERE eXCHANGE
 - Submissions could be deemed ineligible due to an incorrect entry
- EERE strongly encourages Applicants to submit 1-2 days prior to the deadline to allow for full upload of application documents and to avoid any potential technical glitches with EERE eXCHANGE
- Make sure you hit the submit button
 - Any changes made after you hit submit will un-submit your application and you will need to hit the submit button again
- For your records, print out the EERE eXCHANGE page at each step, which contains the application's Control Number

Applicant Points-of-Contact

- Applicants must designate primary and backup points-of-contact in EERE eXCHANGE with whom EERE will communicate to conduct award negotiations
- It is imperative that the Applicant/Selectee be responsive during award negotiations and meet negotiation deadlines
 - Failure to do so may result in cancellation of further award negotiations and rescission of the Selection

Questions

- Questions about this FOA? Email BIL_EGSPilotDemos@ee.doe.gov
All Q&As related to this FOA will be posted on EERE eXCHANGE
 - You must select this specific FOA Number in order to view the Q&As
 - EERE will attempt to respond to a question within 3 business days, unless a similar Q&A has already been posted on the website
- Problems logging into EERE eXCHANGE or uploading and submitting application documents with EERE eXCHANGE? Email EERE-eXCHANGESupport@hq.doe.gov.
 - Include FOA name and number in subject line